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# **Geant4 User's Documents**

## **Geant4 Review**

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# Mandate/Organization of the Use Document Subgroup

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## ■ Mandate

Responsible for maintaining all the user's documents available through the official Geant4 web page.

## ■ Organization

Only very limited manpower is available comparing to importance of the subject, i.e. a small fraction of FTE of the following persons:

- *Documentation group:*

- ◆ Katsuya Amako (CERN/KEK): Coordinator
- ◆ Joe Chuma (TRIUMF)

- *Authors of the documents:*

- ◆ Most of those who are code developers in each category.

← *Again, each person can spend very limited time for the work!!*

# Basic Structure of User's Documents

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## ■ Coverage

It covers all the information necessary for the newcomer to the advanced user, and for those who want to extend functionality of Geant4.

## ■ Basic structure

- The Introduction document and 5 user manuals.
- Also available is the change history of these documents.
- This basics structure has not been changed since the 1st release.
- All documents are available from the Geant4 official web page.
  - ← Available document types: [html](#), [pdf](#), [ps/ps.gz](#)
- Search engine
  - ◆ For all the documents available on the Geant4 document web page.
    - ← *This is very powerful for users to find a specific topic.*

# Overview of the Documents - 1

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## ■ Introduction of Geant4

- General information about the Geant4 collaboration, goal and history.
- Basic information such as
  - ◆ minimal software knowledge required
  - ◆ computing environment
  - ◆ way to access to source codes, guide line for user supports, etc.

## ■ Installation Guide

- How to set up Geant4 under the user's computing environment
- Detail instructions for Unix and PC are available.

## ■ Changes in User's Document since the last release

- Summary of major changes in each release

## Overview of the Documents - 2

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### ■ User's Guide: For Application Developers

- The most extensively consulted document by novice to advance users. It covers enough information for a user to start to write a serious application.
- The step-by-step tutorial for a novice user
- The usage of the toolkit for practical applications, with a lot of example codes
- Provide extensive appendices with supplementary information.

### ■ User's Guide: For Toolkit Developers

- For the user who wants to extend the functionality
  - ← To add a new physics process, a new volume shape, etc.
- Description of the object-oriented analysis and design of Geant4
  - ← Understanding this is essential in order to extend the functionality
- Guidance on how to extend specific aspects of the functionality of each class category.
- *We need more work to improve this document.*

## Overview of the Documents - 3

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### ■ Physics Reference Manual

- Dedicated to describe the physics models used to implement physics processes.
- Complete separation of physics information from how to use the toolkit.
  - Implementation into codes is not explained in this manual.
  - How to use the toolkit is described in “User’s Guide: For Application developers”.

### ■ Software Reference Manual

- Detailed description of the definitions of classes and their public methods in the toolkit.
- Automatic generation on demand by the CGI script (Perl) based on header files of the current released codes.
  - No printed version is available, i.e. only on web page.

# Update Policy

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## ■ General rule for major release

The new version of all documents will be in public after three weeks of a major code release.

← This rule reflects the fact that document authors are also code developers and they do not have time to work on documentation before code release.

## ■ Exception rule for major release

If a new code release makes an important part of a document completely obsolete to the extent that it might introduce significant confusion to the user, the corresponding part will be updated and the document will be made public at the same time of program release.

← Other changes in the document will be done during the usual three weeks period.

## ■ General rule for minor release

Recently we introduced the concept of a minor code release. We are now trying to establish the procedure for this.

## Future Plan

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### ■ Project to improve all user documents

- Peer-to-peer review.

← *This has not been approved yet in the TSB meeting, but the document group considers it is very important.*

- Basic idea

- Formation of a review coordination team.
  - A coordinator for each of the 5 major user documents.
- Each coordinator assigns a reviewer for each chapter from the G4 collaboration.
- Also assigns several reviewers who can comment on the global structure/organization of the documents.
- The 1st new version of the document based on the review by the end of this year.

← *This basic idea will be submitted to the next G4 International workshop at Genova.*